World's Columbian Exposition, Chicago, 1893.

CATALOGUE

OF

NEW SOUTH WALES EXHIBITS.

DEPARTMENT F.

MACHINERY.

Sydney:
CHARLES POTTER, GOVERNMENT PRINTER, PHILLIP-STREET.

1893.

12/ 19—93

Department F.

MACHINERY.

Department F.—Machinery.

COMMITTEE VIII.

Committee VIII on Machinery and Implements.

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Department F.—Machinery.

CLASSIFICATION.

CLASSIFICATION.

Group 69.—Motors and Apparatus for the Generation and Transmission of Power—Hydraulic and Pneumatic Apparatus.

Class 413.—Boilers and all steam or gas generating apparatus for motive purposes.
Class 414.—Water wheels, water engines, hydraulic rams.
Class 415.—Steam, air, and gas engines.
Class 416.—Apparatus for the transmission of power—shafting, hangers, belting, pulleys, couplings, clutches, cables, gearing. Transmission of power by compressed air, &c.
Class 417.—Pumps and apparatus for lifting and moving liquids, water filters. (See also Department E.)
Class 418.—Pumps and apparatus for moving and compressing air or gas. (See also Department E.)
Class 419.—Pumps and blowing engines, blowers and ventilating apparatus. (See also Department E.)
Class 420.—Hydraulic presses, freight elevators, and lifts. Travelling cranes and derricks. (See also Department E.)
Class 421.—Beer engines, soda water machines, bottling apparatus, corking machines. (See also Department A.)
Class 422.—Iron and other metallic pipes, tubes and fittings, stop valves, cocks, &c.
Class 423.—Diving apparatus and machinery.
Class 424.—Ice machines. Refrigerating apparatus.

Group 70.—Fire Engines—Apparatus and Appliances for Extinguishing Fire.

Class 425.—Engines.
Class 426.—Hose-carts and hose.
Class 427.—Ladders and escapes.
Class 428.—Stand-pipes, &c.
Class 429.—Chemical fire-extinguishing apparatus.

Group 71.—Machine Tools and Machines for Working Metals.

Class 430.—Small tools for machinists' use, drills, taps and dies, gauges, &c.
Class 431.—Squares, rules, and measuring tools.
Class 432.—Steam hammers, trip-hammers, drop forging and swaging machines, hydraulic forging, &c.
Class 433.—Planing, drilling, slotting, turning, shaping, milling, punching, and cutting machines. Wheel-cutting and dividing machines.

Group 72.—Machinery for the Manufacture of Textile Fabrics and Clothing.

Class 434.—Machines for the manufacture of silk goods.
Class 435.—Machines for the manufacture of cotton goods.
Class 436.—Machines for the manufacture of woollen goods.
Class 437.—Worsted working machinery and appliances.

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Class 438.—Machines for the manufacture of linen goods.
Class 439.—Machines for the manufacture of rope, and for twine-making, and for miscellaneous fibrous materials.
Class 440.—Machines for paper-making and felting.
Class 441.—Machines for the manufacture of India-rubber goods.
Class 442.—Machines for the manufacture of mixed fabrics.
Class 443.—Machines used in the manufacture of tapestry, including carpets, lace, floor-cloth, fancy embroidery, &c.
Class 444.—Sewing machines for heavy materials.
Class 445.—Machines for preparing and working leather.
Class 446.—Machines for making boots and shoes.

Group 73.—Machines for working Wood.

(See also Departments A and E.)

Class 447.—Direct-acting steam sawing machines, with gang saws, band saws, circular saws.
Class 448.—Sawmills and sawmill tools.
Wood-working machinery for sawmills.
Wood-working tools and minor appliances for sawmills.
Class 449.—Planing, sawing, veneering, grooving, mortising, tonguing, cutting, moulding, stamping, carving, and cask-making machines, &c.; cork-cutting machines. Lathes for wood-work and machinery for the manufacture of matches, tooth-picks, &c.

Group 74.—Machines and Apparatus for Type-setting, Printing, Stamping, Embossing, and for making Books and Paper Working.

Class 450.—Steam-power presses.
Class 451.—Hand-printing presses.
Class 452.—Job presses.
Class 453.—Hydraulic presses.
Class 454.—Ticket printing and numbering machines.
Class 455.—Type casting and setting machines. Linotypes.
Class 456.—Hand-casting moulds.
Class 457.—Machines and printing blocks.
Class 458.—Typographic electrotyping.
Class 459.—Stereotyping.
Class 460.—Bookbinding machinery.
Class 461.—Envelope machines.
Class 462.—Paper-cutters, card-cutters.
Class 463.—Printers' cabinets and printers' furniture generally.
Class 464.—Composing sticks, cases.
Class 465.—Brass and type-metal labour-saving appliances.
Class 466.—Specimens of plain and ornamental types, cuts, music, borders, and electrotype plates.
Class 467.—Type-founders' specimen books of type and typographical ornaments.
Class 468.—Miscellaneous machinery used by printers and newspapers not otherwise specified. Folding machines, addressing, stamping, embossing, &c.

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Group 75.—Lithography, Zincography, and Colour Printing.

Class 469.—Lithography—Tools, materials, and appliances. The various methods of lithography, crayon, pen and ink; engraving, brush work, colour printing, &c. Transferring, printing. Zincography.

Class 470.—Colour printing—Historical illustrations from the 16th Century to the present time. (Relief engraving. The old chiaro-oscuros. Modern wood-engravings. The Baxter process. Intaglio engraving, printed at one impression, *i.e.*, from the plate rubbed in different colours, printed from several plates. Stenochromy. Chromo-lithography. Wax process, &c. The modern photo-mechanical processes applied to colour printing.)

Group 76.—Photo-mechanical and other Mechanical Processes of Illustrating, &c.

Class 471.—Relief processes—Photo-mechanical processes producing relief blocks for printing in the type-press (etching, swell-gelatine and wash-out processes). Line processes (photo-typographic etchings, typo-gravures, &c.)

Class 472.—Half-toned processes — Gelatine grain processes. (Paul Pretsch's and later.) Screen processes. (Misenbach, &c.) The Ives process.

Class 473.—Photo-lithography, &c.—Photo-mechanical processes involving the production of printable designs on stone or zinc, *i.e.*, photo-lithography and photo-zincography. Half-toned processes (the Bitumen process, Poitevin's process, Asser's process, &c.). Recent grain processes. Screen processes. Line processes. (Osborne's process.)

Class 474.—Collographic processes—Photo-mechanical processes, involving the production of gelatine or other glutinous films, to be used as printing surfaces in the lithographic press, *i.e.*, collographic or photo-gelatine processes (albertype, heliotype, artotype, &c.).

Class 475.—Photo-mechanical processes—Producing intaglio plates for printing in the copper-plate press, *i.e.*, photo-gravure. Etching processes, deposit processes, heliotypes, heliogravures, &c. The Woodbury type-moulds and impressions.

Class 476.—Mechanical processes—Partly chemical, partly mechanical, devised as substitutes for the other hand processes, but not involving photography. Chalcotype, Comte process, Gillot process, etching in relief, typographic etching, properly so-called (chemitype, the graphotype, kaolitype), the wax process and allied processes (glyphography, kerography, stylography, typographic etching, improperly so-called, &c.). Machine relief engraving, machine intaglio engraving (medal ruling), galvanography, stenochromy, mineralography, nature printing, the anastatic process, &c. Appendix. Etching on glass (improperly so-called, which involves photography, but not the use of the press).

Class 477.—Drawings for process work.

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Class 478.—Aids to drawing for process work (used by lithographers and draughtsmen). Grained and embossed papers. Pasting tints. The air brush. Day's shading mediums, &c. Methods of reducing and enlarging. Photo-mechanical processes.
Class 479.—Applications of the photo-mechanical processes in the industrial arts—Prints on metal work, cloth, &c.

Group 77.—Miscellaneous Hand-tools, Machines, and Apparatus used in various arts.

Class 480.—Machines for making clocks, watches, and watch-cases.
Class 481.—Machines for making jewellery.
Class 482.—Machines for making buttons, pins, needles, &c.
Class 483.—Wire-working machinery.
Class 484.—Machines for ironing, drying, scouring, and laundry work generally.
Class 485.—Machines for making capsules and other pharmaceutical products.
Class 486.—Machines used in various manufacturing industries not specifically mentioned.
Class 487.—Emery and corundum wheels.
Class 488.—Street rollers, sweepers, and sprinklers.
Class 489.—Steam gauges, oil cocks, and all kinds of appliances used in connection with machinery.
Class 490.—For testing the strength of materials. Dynamometers.

Group 78.—Machines for Working Stone, Clay, and other Minerals.

(See also Department E.)

Class 491.—Stone-sawing and planing machines, dressing, shaping, and polishing, sand blasts, Tilghman's machines, glass-grinding machines, &c.
Class 492.—Brick, pottery, and tile machines. Machines for making artificial stone.
Class 493.—Rolling-mills and forges—roll trains, hammers, squeezers, engines, boilers, and other driving power; heating furnaces (coal and gas), special machines for shaping metal, such as spike, nail, and horseshoe machines; tire mills, &c.

Group 79.—Machinery used in the Preparation of Foods, &c.

Class 494.—Mills for the preparation of cereals.
Class 495.—Sugar-refining machines. Confectioners' machinery.
Class 496.—Oil-making machinery; presses and stills,
Class 497.—Mills and machinery for spices, coffee, &c.
Class 498.—Evaporating machinery for condensing milk, &c.

Department F.—Machinery.

Group LXX—Class 427: Fire Escapes. Group LXXIV—Class 458: Typographic Electrotyping.

Group LXX.—Fire-engines—Apparatus and Appliances for Extinguishing Fire.

CLASS 427.—Ladders and Escapes.

1060. MOIR, Henry C., M.D., care of J. Moir & Co., 53, Margaret-street, Sydney.

Patent Fire-escape.

The model represents a section of a building six storeys high. Projecting from under the eaves of the house is a pulley which corresponds with a similar pulley under the pavement, protected by a grating. Round these two pulleys passes an endless wire rope, which serves to guide a canvas bag, in which the person rescued from the window in any of the storeys is supposed to descend. The bag is big enough to hold two or three persons, and may be made of asbestos, or any material dipped in tungstate of soda, to make it non-inflammable. At the bottom of the bag is a thick air-cushion, to prevent concussion of the brain or spinal chord. The bag is further connected by means of a single wire rope with a spring in the top storey, so that when the descent is accomplished it ascends automatically; its rising and falling are controlled by the brakes, which are eccentric in their action.

Group LXXIV.—Machines and Apparatus for Type-setting, Printing, Stamping, Embossing, and for making Books and Paper-working.

CLASS 458.—Typographic Electrotyping.

1061. GOVERNMENT PRINTER (Charles Potter), Sydney.

The history of the Government Press commenced with the history of Australia. A small printing plant was brought to Sydney by Governor Phillip, in 1788, but it was not until 1795 that a suitable person could be found to set up an office, from which Government orders were first issued, in that year. In 1803 there appeared the first number of the *Sydney Gazette and New South Wales Advertiser*, published by authority. This paper was also used as a private advertising medium, being, in fact, the first Australian newspaper. The *Government Gazette*, which is still the medium for official intelligence, was not issued in anything like its present form until 1832. The present large buildings, used as the Government Printing Office, in Sydney, are barely adequate to the extent of the work carried on therein. In this office are to be found the latest improvements in machinery and general printing appliances, while letter-press printing, bookbinding, photo-lithography, and various processes for reproducing photographic illustrations, are carried out with much efficiency and success.

Electrotypes, executed in the Government Printing Office.

1. Electrotype of bas-relief Medallion, by Woolner—W. C. Wentworth, Esq. (mounted).
2. Electrotype bas-relief Medallion—"Bossuet" (mounted).
3. Do. bas-relief Medallion—"Corneille" (mounted).

4. Electrotype Cheque form (Lunacy Department).
5. Do. Certificate to sell Poisons.
6. Do. Page of Music—"Welcome" (mounted).
7. Eight Electrotypes illustrating Native Flowers.
8. Electrotype illustrating Native Bottle-tree.
9. Do. do. Aboriginal (from a drawing, 1802).
10. Do. Title-page—"Aborigines of Australia."
11. Do. Method of treating the apparently drowned.
12. Do. of Garden Palace, Sydney, N.S.W. (nickelled).
13. Do. Seal of Marine Board of New South Wales.
14. Do. Railway Engine Returns.
15. Do. Card size.
16. Do. Page of Music, curved for using upon rotary printing machine.
17. Two Glyphographic Process Blocks (Railway Cars).
18. Two Electrotypes of Great Seal of New South Wales, mounted in special lithographed design, representing the oak and waratah wreaths entwined, and shields of England and New South Wales surmounted by the Royal Crown; below appears the ribbon and motto of New South Wales, "*Sic fortis Etruria crevit.*"

CLASS 459.—Stereotyping.

1062. GOVERNMENT PRINTER (Charles Potter), Sydney.

Stereotype Plates and Matrix, executed in the Foundry, Government Printing Office.

1. Two Curved Stereotype Plates for working on rotary press. (Market Returns.)
2. Papier-mache Mould used in the Stereotyping Process.
3. Flat Stereotype Plate cast from the mould above.
4. Large Stereotype Plate illustrating the method of restoring the apparently drowned.
5. Stereotype Plate. (School Fees Account.)
6. Do. (Post Office Account.)
7. Do.
8. Do.
9. Do.
10. Do.

CLASS 466.—Specimens of Plain and Ornamental Types, Cuts, Music, Borders, and Electrotype Plates.

1063. GOVERNMENT PRINTER (Charles Potter), Sydney.

Specimens of Work done in the Foundry, Government Printing Office—

1. Movable Type.
2. Special Logotypes.
3. Registered Brands.
4. Original Matrices.
5. Various Sizes of Quotations.
6. Do. Furniture.

Group LXXV.—Lithography, Zincography, and Colour-printing.

CLASS 470.—Colour-printing—Historical Illustrations, from the Sixteenth Century to the present time:—Relief Engraving; the old Chiaro-oscuros; modern Wood Engravings; the Baxter Process; Intaglio Engraving, printed at one impression, *i.e.*, from the plate rubbed in different colours, printed from several plates; Stenochromy, Chromo-lithography, Wax Process, &c.; the modern Photo-mechanical processes applied to colour-printing.

1064. **TURNER & HENDERSON**, Hunter-street, Sydney.

1. Specimens of Heraldic and Commercial Embossing.
2. Specimens of Chromo-lithography.

   Series of Illustrations for "James's Handbook of Australian Horticulture," 12 subjects, as follows:—

Roses,	Bouvardias,	Pansies,
Dahlias,	Cyclamens,	Daffodils,
Anemones,	Begonias,	Orchids
Ericas,	Chrysanthemums,	Group of Australian Wild Flowers.

3. Specimen of Chromo-lithography.
   Supplement to *Sydney Mail*, Christmas number, 1892.
4. Specimens of Chromo-lithography.
   Series of Australian Wild Flowers, 24 varieties, as follows:—

No. 1.

Dipodium punctatum, Sydney.
Sarcopetalum Harveyanum, Springwood.
Wahlenbergia gracilis, Sydney.

No. 2.

Styphelia tubiflora, Sydney.
Lobelia ramosa, Sydney.

No. 3.

Grevillea punicea, Sydney.
Hemigenia purpurea, Sydney.
Pterostylis pedunculata, Sydney.

No. 4.

Styphelia triflora, Sydney.
Dampiera stricta, var. fasciculata, Sydney.

No. 5.

Swainsona Greyana, Darling River (Poison Pea of the Darling).

No. 6.

Eriostemon buxifolius, Sydney.
Dampiera stricta, Sydney.
Leptomaria acida (Native Currant), Sydney.

No. 7.

Patersonia glabrata, Sydney.
Dillwynia floribunda, Sydney.
Acmena elliptica (Lilly-pilly), Sydney.

No. 8.

Eriostemon salicifolius, Sydney.
Actinotus Helianthi and Australian Butterflies, Sydney.

No. 9.

Acacia decurrens, Sydney.
Viola hederacea, Sydney.

No. 10.

Gompholobium latifolium, Sydney.
Scævola hispida, Sydney.
Small Berry from Hunter River.

No. 11.

Tecoma Australis, Sydney.
Sowerbœa juncea, Sydney.

No. 12.

Hibbertia volubilis, Sydney.
Comesperma ericinum, Sydney.

No. 13.

Correa speciosa, Sydney.
Actinotus Helianthi, Sydney.
Asplenium flabellifolium, Kurrajong.

No. 14.

Boronia serrulata (Native Rose), Sydney.
Lobelia ramosa, Sydney.

No. 15.

Ricinocarpus pinifolius, Sydney.
Exocarpus cupressiformis (Native Cherry), Sydney.

No. 16.

Dillwynia ericifolia, Sydney.
Hardenbergia monophylla, Sydney.

No. 17.

Blandfordia nobilis, Sydney.
Adiantum Æthiopicum (Maiden-hair Fern), Sydney.

No. 18.

Boronia pinnata, Sydney.
Actinotus minor, Sydney.

No. 19.

Epacris longiflora, Sydney.
Ionidium filiforme, Sydney.

No. 20.

Tetratheca ericifolia, Sydney.
Dianella lævis, Kurrajong.

No. 21.

Podocarpus elongata, Hunter River.
Bauera rubioides, Sydney.
Ionidium filiforme, Sydney.

No. 22.

Ceratopetalum gummiferum (Christmas Bush), Sydney.
Thysanotus tuberosus (Fringed Violet), Sydney.

No. 23.

Clianthus Dampierii (Sturt's Desert Pea), New Holland.
Elæocarpus obovatus, Hunter River.
Mitrasacme polymorpha, Sydney.

No. 24.

Telopea speciosissima, Waratah.
Leptomaria acida (Native Currant), Sydney.

Group LXXVII.—Miscellaneous Hand-tools, Machines, and Apparatus used in various Arts.

CLASS 484.—Machines for Ironing, Drying, Scouring, and Laundry-work generally.

1065. AUSTIN, Robert, 362, Sussex-street, Sydney.

The "Austin Perfect Patent Washer."

The Washer is a Colonial invention, and when at work three processes are going on, viz., Friction, Sluicing, and Compression. The box, which is in shape of a rhomboid, is on a fixed shaft with feathering blades; being nicely balanced, when clothes and water are inserted it is rocked to and fro with little labour. It is claimed by the patentee that its efficacy in cleansing fine goods adds to its value, and that a saving of 50 per cent. of soap, water, and fuel are effected by the use of the machine.

Department F.—Machinery.

Group LXXVII—Class 486: Miscellaneous Machinery.

CLASS 486.—Machines used in various Manufacturing Industries, not specifically mentioned.

1066. GRIFFITHS, Thomas, "Erynhyfoyd," Prospect Road, Ashfield, Sydney.

Patent Grease Interceptor.

A Grease Trap or Interceptor, for the purpose of preventing grease, fat, or other oleaginous matter from entering drains or sewers, and choking them. It may also be applied to manufactures, to prevent the escape of grease from waste waters.

1067. M'CREDIE, Arthur Latimer, M.Inst. M.E., 250, Pitt-street, Sydney.

Patent Rail Switch.

This exhibit shows the M'Credie Patent Switch Rail, as applied to the usual arrangement of track rails adopted in Australasia for Meat Storage or Refrigerating Chambers. The switch is a movable part of the rail, pivoted lengthways, in a recess of the straight rail. The top and bottom edges are used, one forming the continuation of the straight track, and the other (when reversed) connecting the curved portion of the off rail to the straight track. A groove on each edge allows the outer flange of roller wheel to clear when passing over the straight or off rail. In ordinary refrigerating rooms the switches are within easy reach of the attendants, so that a sharp upward push with the finger puts it in the required position. For high tracks a similar push with a light rod serves the same purpose. Its chief advantages are :—First, Simplicity : It is self-contained, has no attachments to ceilings or walls, and all levers, links, and pins are dispensed with. Second.—Compactness : It occupies but a small portion of the rail, thus enabling the various off-rails to be laid as close as desired. Third.—Certainty of action : It is certain, in that it is self-locking in both positions ; has no open end while reversing, so that it is impossible for the roller to run off. Fourth.—Cheapness : Can be made cheaply, and can be secured to the tracks in a cheap and simple way by any mechanic.

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